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The toymakers

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The protégés of Padma Shri Arvind Gupta are building upon his legacy of making toys from trash.

Towards the end of Arvind Gupta's tenure at the Inter-University Centre for Astronomy and Astrophysics' (IUCAA) Mukangan Science Centre, the toy inventor had been conferred with numerous awards for designing educational toys out of trash. For all his achievements and more, Gupta's close acquaintances knew he was irreplaceable. But they wondered if his prodigious work would continue after he left IUCAA, in 2014, citing health reasons.

Gupta oversaw Mukangan Science Centre from 2003, when it was launched by the eminent astrophysicist and IUCAA's founder-director, Jayant Narlikar. The centre was set up as a part of IUCAA's Science for Toys project, which other than making toys also involved conducting science workshops and school visits. In all these endeavours, Gupta was assisted by five bright assistants — Ashok Rupner, Dr Vidula Mhaikar, Jyoti Hiremath, Shivaji Mane and Manish Jain. When Gupta resigned in 2014, Mhaikar quit the same year, followed by Jain, who put in his papers in 2015. Rupner, Hiremath and Mane continued to work at IUCAA until the Tata Trust-funded Science for Toys project came to an end last year, although Mukangan remains.

After leaving IUCAA, Mhaikar joined Garware Balbhavan in the city, three years ago, where she continues to teach toy-making. Jain works along the same lines as Mhaikar at the Indian Institute of Technology, Gandhinagar (IITGN), in Gujarat. Mane, Rupner and Hiremath have likewise turned torchbearers for Gupta. "They approached me, I think, after reading an article on my work published in a Diwali ank (magazine) in Pune. They have great potential and I am still in touch with them," says Gupta, speaking over the phone from Chennai, where he is currently based.



Ashok Rupner joined IISER last year where he continues to teach toy-making (PHOTOS BY NIKHIL GHORPADE)

Rupner, who now works at the Indian Institute of Science Education and Research's (IISER) Centre of Excellence in Science and Mathematics Education (CoESME) in the city, was among the first assistants to be recruited by Gupta, along with Mhaikar, after Mukangan was launched. Rupner started working as CoESME's programme manager last year. "After I joined IISER, more than 18,000 students and teachers from the state have

attended CoESME's science education events," he says, and, of course, much of it involves making toys. Gupta had invented thousands of toys, out of which making an abacus with used slippers and plastic beads, is what Rupner likes to demonstrate occasionally.

Mhaiskar wished to make a difference in society after working as a research scholar, in biological sciences, at Stanford University. She discovered Gupta after reading an article about him in the Diwali issue of a magazine in the city. The write-up prompted her to meet him and subsequently work for the innovator. Garware Balbhavan is a recreational centre for children, where Mhaiskar tweaks some of the toys, for children of different age groups. "The children themselves come up with ideas to make the toys more aesthetic. They also experiment with materials," she says. Mhaiskar also regularly teaches toy-making at FLAME University. "At FLAME, students make different iterations of the toys to make them more efficient," she adds. She was especially impressed with a flapping butterfly toy designed using plastic straws. "A student made the flapping butterfly into a beautiful 3D object with the help of additional straws," she recalls.

Hiremath travels across the country and the state to conduct toy-making workshops. Sometime ago, she visited Ganpat University in Gujarat. "I conducted a two-day toy-making workshop there, which must have been attended by 10,000 students," she recalls. She has also been to Himachal Pradesh, where she travelled to the remote village of Kandwari, to demonstrate the techniques of toy-making to both teachers and students. In Thane, she taught hearing-impaired children how to create educational toys. "I work independently now," says Hiremath, who receives invitations from many institutions in the city, but her heart lies in teaching at schools in rural parts of Maharashtra. She frequently visits village schools in Lonavla. "I carry a box filled with toys when I conduct workshops. The toys range from a pencil fan to more complex models like motor and magnet toys," she says. Hiremath, like Mhaiskar, wished to do something meaningful with her life. So, when Gupta asked her to work with him at IUCAA, she jumped at the offer.



Dr Vidula Mhaiskar was one of Arvind Gupta's earliest recruits

Mane, who is the youngest of the lot at 33, worked as a housekeeping boy at IUCAA. Prior to that, he left school to sell sweets in Kerala. "I went to Kerala with my brother to help my family overcome a financial crisis," he shares. After returning to Pune, Mane worked at the Ammunition Factory in Khadki before finding work at IUCAA, where, one day, he happened to walk into Gupta's office. "Guptaji's room was filled with colourful toys," he recalls with wonder. Mane soon began helping Gupta to make toys and excelled at the activity. "Shivaji turned out to be an excellent craftsman," says Mhaiskar. Seeing his talent, the city-based DriveChange Learning & Resource Centre (DLRC) appointed Mane a few months ago to make toys and teach children at the centre. He works closely with Pavan Iyengar, co-founder of DLRC, where they aim to invent and make more toy models for education. Mane, with the help of the toys, demonstrates scientific phenomena at DLRC's initiative called 'Tinkering Lab', which is a series of educational workshops.

To the motley crew, Gupta, who was awarded the Padma Shri this year, is more than a toymaker. Mhaiskar considers him to be a philosopher and a true friend. "He took good care of us at IUCAA. He was there for me when my mother was diagnosed with cancer," she says, adding, "Arvind taught us how to make friends for life." Mane would perhaps still be working as a housekeeping staff had he not been given a break by Gupta. "Guptaji helped me to get a job at Muktangan Science Centre," says Mane, who could not complete his school education due to circumstances at home. Gupta first began making toys after he opted to take time off from work to teach science to village children in Hoshangabad, Madhya Pradesh. That was 40 years ago, but the toymaker is nowadays preoccupied with translating books. "It's not only my team members who are continuing with my work. There are also other individuals who are equally passionate about making toys from trash," says Gupta.



Jyoti Hiremath (left) travels extensively to conduct toy-making workshops. Shivaji Mane (right, centre) at a rural school in Maharashtra